

Climate Project

Report about the weather someplace

Purpose

Demonstrate your understanding of atmospheric processes.

Overview

The latitude, altitude, and topography of a location determine its climate. Although no place on Earth is exactly like any other, similarities allow grouping into climate classes with similar weather patterns and geographic conditions. Specific weather events spring from unique one-time factors as well as prevailing conditions. This project is a detailed analysis of the weather and climate at one particular location.

Graded Components

General Climate Report: Report on the general climate of the location, including sunlight, temperature, precipitation, and climate class. Explain how the climate is a consequence of its geographic conditions.

Specific Event Report: Report on a notable weather event at your location. Explain the specific conditions that created the event and describe its development and end.

Oral presentation: Describe the climate and weather of your location to your classmates.

What to Do

Use the location for your geology project. Research its climate and write up your findings.

Find a notable weather event at your location. It should be well-documented, as you need to analyze it in detail. Write up your findings.

Finally, briefly report on your location's climate and specific event orally to the class.

Dates and Deadlines

Oct 6	Project introduced
Oct 20	General climate reports due
Oct 27	Specific event reports due
Oct 30	Oral presentations

Scoring

General Climate Report (70 points total)

Describe the area's climate and the factors responsible for it.

Geographic data (10 points)

Identify the location's position on Earth (latitude, longitude, elevation). Display (graphs would be especially nice) the day length and highest sun angle at the equinoxes, solstices, and cross-quarter days (Feb 4, Mar 20, May 5, Jun 21, Aug 4, Sep 22, Nov 6, Dec 21).

6	Reports correct latitude, longitude, and elevation.
8	As previous, plus contains correct day lengths for the specified dates.
9	As previous, plus reports correct sun angles for the specified dates.
10	0As previous, plus well-organized and neat.

Geographic setting (20 points)

Identify the continent or region and describe your location's position therein. Identify and describe nearby land forms, mountains, rivers, and bodies of water. Describe the prevailing wind circulation throughout the year. Identify the principal agricultural uses of the nearby land.

12	Correctly located on continent or in region.
14	As previous, plus correctly identifies land forms and bodies of water.
16	As previous, plus reports correct wind patterns.
18	As previous, plus identifies major agricultural uses.
20	As previous, plus clear and concise.

Climate class (10 points)

State the Köppen class symbol for the region. Name and describe the phrase description. Explain how the geographic features produce that climate.

7	Correctly identifies the Köppen class symbol.
8	As previous, plus provides the phrase description.
9	As previous, plus briefly describes the characteristics of the class
10	As previous, plus explains how the geographic features produce the climate.

Weather data (20 points)

State yearly average precipitation and range. Display (graphs would be especially nice) monthly precipitation and temperature averages. Holistically describe the climate, including special features not found in the numbers (precipitation is mostly from infrequent summer thunderstorms, the area is prone to hurricanes, very windy in the winter, etc.).

10	Reports correct average yearly precipitation and range.
15	As previous, plus reports average monthly precipitation and temperature.
18	As previous, plus describes special features of the location's climate.
20	As previous, plus clear and concise.

Annotated bibliography (10 points)

This is a record of all the sources from which you obtained the information in your report. It contains:

- standard look-up information, following a consistent, adequate format;
- a brief summary of the topic, contents and creator; and
- how useful the source was for gathering the information needed for the report.

0–5	Fewer than three sources, sources all from the Internet, or incomplete citations.
7	Contains at least three sources including one non-Internet source. Contents of all sources are adequately summarized.
8	As previous, plus organization, accessibility, and utility of sources are evaluated.
10	As previous, plus descriptions and evaluations are brief, crisp, and believable.

ESWE

The report must meet the highest standards of Edited Standard Written English (ESWE). Consequently, the score for the written report is adjusted by its ESWE multiplier. See the separate document for description of the ESWE rules and the application of the ESWE multiplier.

Specific Event Report (60 points total)

Report on a notable weather event at your location.

Description (30 points)

Narrative description: 20

Present the history of the event, including its dates and full geographic extent. Describe all changes as the event progressed.

12	Outlines the progress of the event.
16	Thoroughly describes the event in detail.
18	As previous, plus includes informative clarifying details.
20	As previous, plus organized and easy to read.

Meteorologic explanation: 10

Explain how the event originated, developed, and ended. Depending on the nature of the event, you may need to describe the progress of fronts, high and low pressure centers, and cyclonic systems.

7	Outlines the progress of the weather system.
8	Details all applicable meteorological occurrences.
9	As previous, plus includes informative specific weather observations.
10	As previous, plus organized and easy to read.

Human Impact (20 points)

Describe the event's effect on human life, structures, and institutions. Describe and analyze human responses to the event.

13	Mentions effect on physical structures and economic impacts.
14	As previous, plus mentions human response to the event.
16	As previous, plus extensively describes economic and societal impacts.
17	As previous, plus analyzes human responses and their consequences.
20	As previous, plus organized and easy to read.

Annotated bibliography (10 points)

This is a record of all the sources from which you obtained the information in your report. Citation and reference formats should follow the same guidelines described for the general climate report.

0–5	Sources all from the Internet or incomplete citations.
7	Contains at least one non-Internet source. Contents of all sources are adequately summarized.
8	As previous, plus organization, accessibility, and utility of sources are evaluated.
10	As previous, plus descriptions and evaluations are brief, crisp, and believable.

ESWE

The report must also meet the highest standards of Edited Standard Written English (ESWE). Consequently, the score for the written report is adjusted by its ESWE multiplier. See the separate document for description of the ESWE rules and the application of the ESWE multiplier.

Oral Presentation (20 points)

Describe the climate of the area, including seasonal precipitation and temperature patterns, and Köppen climate class. Also describe the notable weather event on which you reported.

Your presentation shall be understandable and factually correct. Speak audibly and with animation, and maintain eye contact with your audience.

0–10	Inaudible, unintelligible, or incomprehensible.
12	Speaks clearly and understandably; presentation contains all components.
14	As previous, plus all reported facts are correct.
16	As previous, plus presentation is clear, organized and concise.
18	As previous, plus maintains eye contact with class.
20	As previous, plus conveys enthusiasm.